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UNITED STATES DEPARTMENT OF AGRICULTURE

# FOREST SERVICE

U. S. DEPT. OF AGRICULTURE  
NATIONAL ARCHIVES

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CURRENT SERIAL RECORDS

WHITE PINE BLISTER RUST CONTROL

REGION SEVEN

CALENDAR YEAR 1962







# WHITE PINE BLISTER RUST CONTROL IN THE EASTERN REGION

## ANNUAL REPORT FOR 1962

White pine blister rust control has been carried on in the Eastern States and New York for over 10 years and in the Southern States for a little over 27 years. Over these years, thousands of acres of commercial, watered and unwatered white pine stands have been surveyed, mapped and ribbed and infection removed. The survey work has been carried on in the White Mountains, Jefferson National Forest, and the Shenandoah National Park.

Many of our districts have been working on white pine blister rust control for many years. They are thoroughly familiar with the conditions and their close cooperation with state, county and local agencies has played an important part in maintaining the good relations we have enjoyed in our cooperative blister rust control program.

### COOPERATIVE BLISTER RUST CONTROL

#### Accomplishments

During 1962 white pine blister rust control was conducted in 14 Eastern States. These were Maine, New Hampshire, Massachusetts, Vermont, Connecticut, New York, Pennsylvania, Maryland, Delaware and New Jersey. Besides work on State and Private lands in the State National Forests, blister rust control operations were carried on in the White Mountains, Jefferson National Forest, and the Shenandoah National Park.

Ribes were eradicated from 53,752 acres during 1962. The survey work 1,528,597 acres were surveyed for blister rust infection in cooperation with the State and Private Land Surveyors.

Acres mapped (included in survey work) 1,528,597 acres. Acres surveyed 1,528,597 acres. Acres mapped (included in survey work) 1,528,597 acres.

State and Private Land Surveyors. Survey work Upper Darby, Pa.

operation. It is through surveys that records are kept of the changing white pine, ribes and infection conditions. This information is used to develop the best control program for the white pine areas.

white pine areas in low and medium risk areas. The control program is reducing the control acreage but are placing more acreage on longer range maintenance schedules, as well as increasing the acreage in the control work category. Through surveys new areas are also being added to the control area whenever it is found that white pine stocking meets the minimum





## WHITE PINE BLISTER RUST CONTROL

### U. S. FOREST SERVICE - REGION 7

#### CALENDAR YEAR 1962

White pine blister rust control has been carried on in the New England States and New York for over 40 years and in the Southern Appalachian States for a little over 27 years. Over these years practically all white pine stands of commercial, watershed and recreational value have been surveyed, mapped and ribes eradication performed one or more times where necessary to bring about control of the rust. Over 94 percent of the 12 1/2 million acres in the control area are now on maintenance.

Many of our district leaders have been working on blister rust control for many years. They are thoroughly familiar with white pine and infection conditions and their close cooperation with state, county and town people has played an important part in maintaining the good relations we have enjoyed in our cooperative blister rust control program.

#### COOPERATIVE BLISTER RUST CONTROL

##### Accomplishments

During 1962 white pine blister rust control was conducted in ten cooperating states. These were Maine, New Hampshire, Massachusetts, Vermont, Connecticut, New York, Pennsylvania, Maryland, Virginia and West Virginia. Besides work on State and Private lands in the above mentioned States, blister rust control operations were carried on in the White Mountain, Green Mountain, George Washington, Jefferson and Monongahela National Forests and the Shenandoah National Park.

Ribes were eradicated from 83,753 acres using 9,463 man days. On survey work 1,628,692 acres were examined for pine conditions in connection with pine area reappraisals, checking and mapping using 11,956 man days. Acres mapped (included in survey) were 328,611 on State and Private lands, 3,363 on National Forest lands and 1,700 on National Park lands. Ninety-six percent of the total acreage worked (survey and ribes eradication) was on State and Private lands. Survey work is an important phase of the control operation. It is through surveys that records are kept up-to-date on changing white pine, ribes and infection conditions. Through reappraisals of white pine areas in low and medium rust hazard zones, we are not only reducing the control acreage but are placing more acreage on longer range maintenance schedules, as well as increasing the acreage in the no further work category. Through surveys new areas are also brought into the control area whenever it is found that white pine stocking meets the minimum





standard for control. Of the total acreage now on maintenance (94 percent), we have over 3.6 million acres (30 percent) set aside as needing no further work.

Although new infections on white pine are becoming less each year within the control area, a limited amount of canker elimination work is done. Most of this work is confined to plantations. In 1962 over 10,000 trees were examined in the States of New York, Maryland, Virginia and West Virginia with 397 infected trees being treated.

Nursery sanitation work was carried on in six state owned nurseries in Maine, Massachusetts, Connecticut and New York. All nurseries are under good control.

Efficiency checks were made on approximately one percent of the acreage worked by ribes eradication crew. The checking reports indicated that the quality of the work performed was satisfactory.

The present method of checking is not entirely satisfactory and there is some confusion in "Site" checking and in using the present field and report forms. In 1963 it is planned to work out a better checking system that will be suitable throughout the Region.

Our Zone, Area and District offices as well as Cooperating State Agencies were very active during 1962 in Information and Education activities. Included were show-me trips, training programs, exhibits, talks to organizations, radio talks, classroom lectures, distribution of pamphlets and the showing of movies and slides. Besides these our district leaders (both State and Federal) made numerous "service calls" to landowners within their respective districts. This all adds up to the fine cooperation we are receiving on blister rust control in the Region. The total attendance reported at all meetings during the year was 13,348 interested individuals.

In 1963 the State of New Hampshire took over full responsibility of the blister rust program under the supervision of Pest Control Chief, Thomas J. King. Federal District Leader W. S. Codman assists Mr. King and the seven state district men in coordinating the program in the State.

### Seasonal Employment

The peak seasonal employment occurred during the ribes eradication season and reached 338 persons in 1962. Of this total, 293 were employed on State and Private lands, 41 on National Forest lands and 4 on National Parks. The largest number of seasonal employees were hired in the States of Maine and New York having 82 and 73 respectively.





### Chemical Ribes Eradication

Chemical ribes eradication has proved very effective using 2,4,5-T in fuel oil as a basal spray for all ribes species except skunk currants. For the latter a water solution of 2,4,5-T and used as a foliage spray has been very effective. We get less ribes regeneration using chemicals. Chemical ribes eradication is now conducted on 78 percent of the acreage from which ribes are destroyed.

### Antibiotic Treatments

So far the use of antibiotics has not played an important role in Region 7 in controlling blister rust. The results in using Acti-dione and Phytoactin either as a foliage spray or as direct canker treatment have not been entirely satisfactory. The use of antibiotics is still on an experimental basis and no further testing of new formulations of fungicides will be done unless directed to do so by the Lake States Forest Experiment Station. We will, however, maintain our present study plots as observation areas and keep all plot data up-to-date. A few additional small areas will be treated using fungicide formulations already approved.

In September a 10-acre New York State owned white pine area was treated with Phytoactin L-318 from a fixed wing aircraft.

### Cooperative Financing

Cooperative financing of blister rust work in the Region involved 10 states as well as the U. S. Forest Service, 221 towns in Maine, New Hampshire, Vermont and Connecticut and 14 cooperating Counties in the State of New York. In the State of Virginia a private landowner and a lumber company cooperated by contributing funds to protect the white pine on their lands. In the State of Maine the University of Maine and private individuals also contributed.

### Pine and Infection Conditions

White pine reproduction continues to increase on old abandoned farm lands and cut-over areas where the pine has been released. Some increase is also due to the establishment of white pine plantations. In 1962 there was an increase in white pine acreage of 10,578. At the same time we had a reduction of the base control acreage of 73,850. The control acreage reduction is mainly due to the reduction of protective zone boundaries. Other reductions are due to changes in land use. There are very few instances in the region where we need to maintain a 900 foot protective strip to give adequate protection to the white pine. Infection on pine in controlled areas remains at a low level.





Ribes infection during 1962 was generally light. It was felt that the prolonged drought throughout most of the region had a lot to do with the low incidence of infection. In many instances ribes leaves curled and dropped before telia formation.

### Microclimatic Studies

The white pine blister rust hazard study conducted by J. W. Charlton with the assistance of many others was completed in 1962 and will be issued in printed form early in 1963. A great deal of intensive work went into this study and the microclimatic factors as set up in field guides will be a great aid to our district leaders in making rust hazard evaluations of individual control units. Practical field guides and appraisal sheets have been made, and training sessions on their use are now under way for all permanent blister rust personnel.

Another study was made by R. E. Curtis. Curtis made a very comprehensive maintenance program study in New Hampshire. From this study based on past and present infection conditions, spore viability, microclimatic factors and other ecological conditions, a map was made showing large areas which need no further working and others which can be left 20 years or more before the next examination. This should be of valuable aid to the State in making up future work plans.

### Other Activities

With so much control acreage on maintenance our blister rust personnel can spend a certain amount of their time on other forest pest activities. In 1962 numerous insect observation plots were established throughout the Region. Active participation was taken on white pine weevil control in New York and Pennsylvania, oak wilt in Kentucky, Virginia and West Virginia, webworm in Virginia and others. Joseph Pike, District Leader for the Bridgton district in Maine was assigned for a number of weeks to one of our western forests to assist in organizing and conducting a large spruce budworm spray project.

White pine weevil damage is fairly widespread throughout the Region. It is a major problem and our blister rust personnel being familiar with the activities of this pest are in a good position to assist in carrying on a white pine weevil control program.

### Organization and Personnel

On white pine blister rust control the U. S. Forest Service employs 14 district leaders under the supervision of two zone supervisors and an area leader. In the Northern Zone one blister rust control man is assigned to





the zone office to carry out antibiotic studies and to assist the zone supervisor in other phases of blister rust control activities as assigned. Two men are assigned to special blister rust project studies. Besides blister rust personnel the two zone offices are staffed with 2 entomologists and 1 pathologist respectively.

The cooperating states employ a total of 49 men on blister rust control. Some of these men are employed part-time on other state forest pest control activities.

In the Regional Office, Forest Pest Control Branch in State and Private Forestry, Mr. Paul Simmonds retired in May 1962, because of illness and was replaced by J. Curtis Ball from California. Mr. Wilfred L. Freeman, Jr., Entomologist, was transferred from the Regional Office to the Southern Zone FPC office in June 1962. Mr. James L. Bean, Entomologist, was transferred from the Lake States Forest Experiment Station in September 1962 to the Regional Office Pest Control Branch. Mr. David W. Morison, Pathologist, formerly employed by the Champion Papers Inc., came to the Regional Office Pest Control Branch in April 1962. Mr. William H. Klein, Entomologist, was transferred from Region 6 to our Northern Forest Pest Control Zone in October 1962.





TABLE 1

## SUMMARY OF RIBES ERADICATION IN THE EASTERN REGION 1962

Control Operation	Acres Worked				Erad. Man-days	Thousands of Ribes Destroyed	Acres Surveyed
	Initial	Rework	Maint.	Total			
Work on State and Private Lands							
Maine	291	1,105	1,520	2,916	1,215	312	251,597
New Hampshire	6	35	612	653	163	468	391,262
Vermont	777	1,052	5,886	7,715	558	103	53,191
Massachusetts	-	222	832	1,054	184	23	38,559
Connecticut	-	-	1,186	1,186	60	44	57,387
New York	9,080	14,348	20,074	43,502	2,838	473	568,813
Pennsylvania	862	1,289	925	3,076	489	71	111,169
Maryland	2,666	1,245	-	3,911	966	356	6,359
W.Virginia	1,293	2,607	3,925	7,825	1,003	71	56,161
Virginia	785	897	964	2,646	556	23	32,758
Total S&PF	15,760	22,800	35,924	74,484	8,032	1,944	1,567,256
Work on National Forest Lands							
White Mt.-Me.	1	1	-	2	1	1	3,997
Green Mt.-Vt.	5	-	24	29	2	-	1,893
Geo. Wash. -Va.	86	1,460	1,998	3,544	643	22	33,712
Geo.Wash.-W.Va.	-	2,161	183	2,344	291	14	5,856
Jefferson - Va.	-	350	395	745	148	9	8,693
Monongahela, WVa.	-	60	1,200	1,260	110	8	4,987
Total N. F.	92	4,032	3,800	7,924	1,195	54	59,138
Work on National Park Lands							
Shenandoah -Va.	950	-	395	1,345	236	26	2,298
Total all lands	16,802	26,832	40,119	83,753	9,463	2,024	1,628,692



TABLE 2

STATUS OF RIBES ERADICATION IN THE EASTERN REGION - AS OF DECEMBER 31, 1962

Control Operation	Control Area		Acres Initially Worked	Acres on Mainte- nance	% on Maint.	Pre-maint.work remaining		Acres requir- ing no further work
	Acres White Pine	Acres Control				Acres Initial	Acres Rework	
Work done on State and Private Lands								
Maine	952,258	2,130,250	2,072,995	1,899,054	89.1	57,255	173,941	127,735
N.H.	1,240,109	2,370,904	2,370,409	2,326,030	98.1	495	44,379	317,320
Vt.	173,678	641,491	629,212	553,559	86.2	12,279	75,653	49,142
Mass.	582,593	1,404,731	1,404,586	1,378,001	98.0	145	26,585	1,069,814
Conn.	109,761	468,324	468,324	468,324	100.0	-	-	326,185
R.I.	64,018	147,778	147,778	147,778	100.0	-	-	147,778
N.Y.	699,455	1,946,502	1,931,526	1,771,259	90.0	14,976	160,267	246,951
N.J.	3,771	16,742	16,742	16,742	100.0	-	-	16,742
Pa.	105,412	462,609	459,069	439,824	95.0	3,540	19,245	27,465
Del.	242	6,186	6,186	6,186	100.0	-	-	6,186
Md.	73,482	174,319	174,319	152,444	87.4	-	21,875	54,553
W.Va.	245,676	497,572	497,126	463,431	93.1	446	33,695	136,891
Va.	539,187	1,397,871	1,395,834	1,362,537	97.6	2,037	33,297	760,493
Ky.	31,199	114,312	114,312	114,312	100.0	-	-	114,312
Total S&PF	4,820,841	11,779,591	11,688,418	11,099,481	94.2	91,173	588,937	3,401,567





Table 2 (continued)

Control Operation	Control Area		Acres Initially Worked	Acres on Mainte- nance	% on Maint.	Pre-Maint.work remaining		Acres requir- ing no further work
	Acres White Pine	Acres Control				Acres Initial	Acres Rework	
Work Done on National Forest Lands								
Wh.Mt. Me.	1,753	3,371	3,116	3,116	92.4	255	-	-
Wh.Mt. N.H.	1,213	2,194	2,194	2,194	100.0	-	-	-
Gr.Mt. Vt.	448	1,653	1,653	1,653	100.0	-	-	-
Alleg. Pa.	1,047	4,545	4,235	3,960	87.1	310	275	-
Monon. W.Va.	48,136	89,094	89,094	85,659	96.1	-	3,435	24,607
Geo.W. W.Va.	43,193	69,463	69,463	65,287	93.0	-	4,176	3,747
Geo.W. Va.	192,455	413,726	413,578	386,816	93.4	148	26,762	106,327
Jeff. Va.	64,370	124,572	124,572	120,369	96.6	-	4,203	53,633
Cum. Ky.	16,980	32,002	32,002	32,002	100.0	-	-	32,002
Total NF Lands	369,595	740,620	739,907	701,056	94.6	713	38,851	220,316

## Work Done on National Park Lands

Acadia Me.	3,500	17,318	17,318	17,318	100.0	-	-	-
Sara. Battle-field, N.Y.	145	1,550	1,550	1,550	100.0	-	-	-
Hyde Park, N.Y.	12	105	105	105	100.0	-	-	105
Shenandoah, Va.	3,394	15,371	15,371	14,568	94.7	-	803	-
Blue Ridge, Va.	507	1,780	1,780	1,583	88.0	-	197	-
Total NP Lands	7,558	36,124	36,124	35,124	97.2	-	1,000	105

## All work done in Eastern Region

All Control Operations	5,197,994	12,556,335	12,464,449	11,835,661	94.2	91,886	628,788	3,621,988
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